CLAIMS

What is claimed is:

1. A method for restoring a file system from one or more incremental backups in the presence of deletion, without restoring a deleted file, comprising the steps of:

deleting a file;

logging a file deletion in a deletion log;

updating metadata associated with the deleted file; and

using the deletion log and the metadata, re-deleting the deleted file that has been previously backed-up, upon a restore operation to an incremental backup, to allow accurate restore by removing the deleted file without comparing snap-shot images.

2. The method of claim 1, further including the step of checking if the deleted file has been backed-up in a previous incremental backup.

3. The method of claim 2, wherein the step of deleting the file includes moving the file designated for deletion from a file server to an allocated memory in a backup system.

4. The method of claim 2, wherein, in the restore operation, if the deleted file has been backed-up and a backup file has been created, annotating the metadata to reflect the deletion of the file.

5. The method of claim 4, wherein the step of logging the file deletion in the deletion log includes logging a file name and annotated metadata.

6. The method of claim 5, wherein if the deleted file has not been backed-up, proceeding with the restore operation without creating a deletion log for the deleted file.

7. The method of claim 6, further including the step of checking the deletion log for an entry indicative of a deleted file.

8. The method of claim 7, wherein if the deletion log contains at least one entry, backing up the deletion log.

9. The method of claim 8, further including, subsequent to the step of backing up the deletion log, clearing the deletion log in preparation for future file deletion entries.

10. The method of claim 9, wherein if the deletion log does not contain a deletion entry, implementing a client application without backing up the deletion log.

11. A system for restoring a file system from one or more incremental backups in the presence of deletion, without restoring a deleted file, comprising:
    means for deleting a file;
    means for logging a file deletion in a deletion log;
    means for updating metadata associated with the deleted file; and
    means for using the deletion log and the metadata, re-deleting the deleted file that has been previously backed-up, upon a restore operation to an incremental backup, to allow accurate restore by removing the deleted file without comparing snap-shot images.

12. The system of claim 11, further including means for checking if the deleted file has been backed-up in a previous incremental backup.

13. The system of claim 12, wherein the means for deleting the file moves the file designated for deletion from a file server to an allocated memory in a backup system.

14. The system of claim 12, further including means for annotating the metadata to reflect the deletion of the file in the restore operation, if the deleted file has been backed-up and a backup file has been created,.

15. The system of claim 14, wherein the file deletion log includes a file name and annotated metadata.

17. The system of claim 16, further including means for backing up the deletion log if the deletion log includes an entry indicative of a deleted file

18. The system of claim 17, further including means for clearing the deletion log in preparation for future file deletion entries.

19. A computer program product for restoring a file system from one or more incremental backups in the presence of deletion, without restoring a deleted file, comprising:
   means for deleting a file;
   means for logging a file deletion in a deletion log;
   means for updating metadata associated with the deleted file; and
   means for using the deletion log and the metadata, re-deleting the deleted file that has been previously backed-up, upon a restore operation to an incremental

backup, to allow accurate restore by removing the deleted file without comparing snap-shot images.

20. The computer program product of claim 19, further including means for checking if the deleted file has been backed-up in a previous incremental backup.